DOCUMENT RESUME

ED 319 403 IR 014 432

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TITLE A Survey of University Students' Behavior, Knowledge, and Opinions Regarding Unauthorized Copies of Computer Software.
PUB DATE Nov 88
NOTE 25p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (Louisville, KY, November 9-11, 1988).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS College Students; *Computer Software; *Copyrights; Higher Education; Knowledge Level; *Legal Responsibility; Microcomputers; Questionnaires; Student Attitudes; Student Behavior
IDENTIFIERS *Computer Piracy; *Copyright Compliance

ABSTRACT

The purpose of this study was to determine the nature and extent of unauthorized copying of microcomputer software by university students. The sample consisted of 392 university students ranging in age from 18 to 35. A survey instrument administered to all students contained 20 Likert-type questions designed to gather data on students' behavior, how they perceived the behavior of others, anticipated behavior, and opinions about unauthorized copying of software; demographic data, including age, sex, class standing, major, and employment status; and dichotomous questions about computer ownership, computer use, and knowledge of laws concerning unauthorized copying of computer software. Responses were analyzed using the Statistical Analysis System. Frequency of response and percentages were examined for each item, and the Chi-Square Test of Independence was used as a test of statistical significance. Findings indicate that unauthorized copying of software is occurring for this sample of students, but, due to the fact that random sampling was not used, the results can be inferred only to the group sampled. It is intended that this study be used as a preliminary study, and that further studies will be conducted to determine if unauthorized copying is occurring at other universities and colleges. Demographic data and responses to the dichotomous and Likert-type questions are presented in six tables. (7 references) (GL)

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A SURVEY OF UNIVERSITY STUDENTS' BEHAVIOR, KNOWLEDGE, AND OPINIONS REGARDING UNAUTHORIZED COPIES OF COMPUTER SOFTWARE

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Paper presented at the 1988 Annual Meeting
of the Mid-South Educational Research Assocation

Louisville, Kentucky

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TR014432

A Survey of University Students' Behavior, Knowledge, and Opinions Regarding Unauthorized Copies of Computer Software

Introduction

The growth of the microcomputer industry in the last six years has been unparalleled (Davis, 1985). Harris (1985) reported that more than 2 million people in America owned microcomputers in 1985 and that number was expected to double in 1986. Microcomputers are currently used in most types of organizations including businesses, government offices, public schools, and colleges and universities. This growth has been accompanied by a demand for application computer software (Davis, 1985). There are many types of commercial computer software programs currently available which range from $9.95 for a simple drill and practice program for use in aiding instruction to $40,000.00 for a sophisticated integrated accounting system for a specialty industry.

The demand for software "has led to serious concern on the part of software authors, publishers, and the computer industry about what is called 'software piracy'--illegal copying and distribution of valuable computer programs" (Davis, 1985, p. 71). Davis stated that the extent of pirating software is unknown, but is large enough to cause serious economic harm to the computer industry.

Kinzer, Sherwood, and Bransford (1986) stated that although people who make unauthorized copies of software say it is for back-up purposes, software vendors believe people use unauthorized copies rather than purchasing the software.

DiNucci (1985) reported that a marketing research company called Future Computing determined that fifty percent of software currently in use at the time of the survey consisted of unauthorized copies.

It is believed that software piracy is occurring on college and university campuses. David B. Sturtevant, vice president of public communication for ADAPSO, a trade association in the computer software and services industry, was quoted in The Chronicle of Higher Education (Turner, 1987) as stating, "from an industry perspective, the college community is a hotbed of piracy" (p. 18).

Turner (1987) reported in the April 15, 1987 issue of The Chronicle of Higher Education that a statement would be mailed that week to colleges and universities condemning software piracy. The statement emphasized "respect for intellectual labor and creativity" (p. 1), and was written by EDUCOM Software Initiative, a consortium consisting of more than 450 colleges interested in computer technology. David Sturtevant in that same article, held that individual universities should include the piracy statement as part of their honor codes.

Turner (1987) maintained that computer industry officials have made it clear that universities and colleges which do not have statements such as that written by EDUCOM will have a more difficult time negotiating favorable purchase terms for software. The statement written by EDUCOM compares unauthorized copying of licensed software to plagiarism, and states that

unauthorized copying will not be accepted. The points delineated in the statement include: making unauthorized copies of licensed software is illegal, institutions may incur a legal liability if there is a proliferation of unauthorized copying on the campus, and unauthorized copying deprives developers of software of a fair return.

Computer software programs are recognized under the copyright laws as literary works, and therefore protected under the copyright laws (Wharton, 1986). These laws include that the owner of a copyright is the only individual having the right to reproduce or make copies of the work, to make derivative works (i.e, translations, modifications, new editions), to distribute copies of the work, to perform the work in public, or to display the work in public. These exclusive rights are limited by the "first sale doctrine," under which the owner of a copy, such as a library, can sell or give that copy to another person or display it in public (Wharton, 1986).

Most software publishers also include licensing agreements with copies of their software, detailing the rights of the purchaser. The licensing agreements include information on whether copies of the software are allowed to be made, on how many machines the software may be used, and whether the software can be used on two or more machines at the same time. The majority of vendors of licensed software do not allow copying of their software, although some will allow back-up copies to be made.

Green and Gilbert (1987) stated that many colleges and universities had responded to concerns about computer software use and unauthorized copying. According to Green and Gilbert, the preliminary results from a study by Peat Marwick and EDUCOM revealed that "more than half of those responding have written policies on computer access and unauthorized software duplication; two-thirds have campus policies on illegal copying and unauthorized computer access" (p. 48). College and university officials responsible for microcomputer software purchase and use are attempting to reduce unauthorized copying for several reasons: Universities and colleges "have a moral responsibility to promote legal and ethical behavior with respect to computer software " (Green & Gilbert, 1987, p. 48), the ability to negotiate favorable contracts for computer software may be dependent on the attempt to reduce unauthorized copying, and there is potential institutional liability for unauthorized copying by individuals affiliated with the institution (Green & Gilbert, 1987).

The purpose of this study was to ascertain the nature and extent of unauthorized copying of microcomputer software by the university students surveyed.

Methodology

The sample consisted of 392 university students ranging in age from 18 to 35. There were 186 females and 201 males (5 missing values). The students were attending courses in three areas: an introductory information systems and analysis class

pertaining to the concepts and applications of computers; an information systems and analysis class pertaining to data processing, management information systems, and system design; and a finance course concerning managerial finance. All sections of the classes for the Spring, 1988 semester were surveyed. The survey was given at the beginning of the semester.

The survey instrument consisted of demographic data, dichotomous questions, and 20 Likert-type questions designed to elicit the opinions of the students sampled concerning unauthorized copying of computer software. The questions concerned the students' behavior, how they perceived the behavior of others, anticipated behavior, and opinions. The demographic data gathered consisted of age, sex, class standing, major, and employment. Dichotomous questions concerned computer ownership, computer use, and knowledge of laws concerning unauthorized copying of computer software.

Instructions on the Likert-type scale portion of the survey instrument directed the respondents to indicate the degree to which they agreed or disagreed with the questions. The response scale consisted of five choices:

1 = Strongly Agree

2 = Agree

3 = Undecided

4 = Disagree

5 = Strongly Disagree

The survey instrument was pilot tested with two groups of university students from universities other than the one used in this study. As a result of the responses from the pilot, several items were revised or deleted and new items added.

Results

Responses from the survey were analyzed using the Statistical Analysis System (SAS) (SAS Institute Inc., 1985). Frequency of response and percentages were examined for each item on the survey instrument (see Tables 1, 2, and 3). In addition, the Chi-Square Test of Independence was used as a test of statistical significance to see if differences existed between groups of respondents based on those who have made unauthorized copies of computer software, those who will make unauthorized copies of computer software, and computer ownership.

The primary purpose of the study was to determine whether the students sampled have made or will make unauthorized copies of computer software. The data in Table 2 show that when asked to reply yes or no to a question asking whether students have made unauthorized copies of computer software, of those students that responded, 71 (18.3%) responded yes and 318 (81.7%) responded no. When asked to reply yes or no to a question asking whether students will make unauthorized copies of computer software, of those that responded, 110 (28.6%) of the students responded yes and 274 (71.4%) of the students said no. Interestingly when the students were asked a similar question

(will they probably make copies?) in a Likert-type format, of those that responded, 27 (7.1%) strongly agreed, 91 (23.8%) agreed, 136 (35.6%) were undecided, 111 (29.0%) disagreed, and 17 (4.5%) strongly disagreed (see Table 3). It appears that when given a similar question and a choice of undecided rather than just yes or no, many of the students who said no, responded as undecided.

When 230 students from the introductory information systems classes were asked to respond yes or no to whether they will make unauthorized copies, of those that responded, 58 (25.6%) of the students responded yes and 169 (74.4%) of the students responded no, but when asked to respond to a similar question in a Likert-type format (will they probably make unauthorized copies?), of those students who responded, 15 (6.7%) strongly agreed, 51 (22.8%) agreed, 88 (39.3%) were undecided, 61 (27.2%) disagreed, and 9 (4.0%) strongly disagreed. When this same group of 230 students was asked whether they will probably accept unauthorized copies of software, of those that responded, 20 (8.9%) strongly agreed, 84 (37.5%) agreed, 74 (33.0%) were undecided, 39 (17.4%) disagreed, and 7 (3.1%) strongly disagreed. When the total group of 392 students were asked whether they will accept unauthorized copies of software 38 (9.9%) strongly agreed, 141 (36.8%) agreed, 127 (33.2%) were undecided, 67 (17.2%) disagreed, and 10 (2.6%) strongly disagreed.

Other interesting findings were that when asked in a Likert-

type question if they thought software was too expensive for students to purchase, of those that responded, 81 (21.1%) strongly agreed, 143 (37.2%) agreed, 120 (31.3%) were undecided, 32 (8.3) disagreed, and 8 (2.1%) strongly disagreed. When asked in a Likert-type question if most people make unauthorized copies of software, of those that responded, 49 (12.8%) strongly agreed, 159 (40.6) agreed, 141 (36.7%) were undecided, 35 (9.1%) disagreed, and 3 (0.8%) strongly disagreed.

The Chi-Square Test of Independence was used to determine if there were significant differences between some of the groups. The level of significance was set at .001. Two of the groups examined to determine if significant differences existed were those who will make unauthorized copies and those who will not make unauthorized copies. These groups were examined with respect to several questions on the survey (see Table 4). Significant differences were found on several of the questions including computer ownership, use of computers in school or employment, those who believe it is all right to make unauthorized copies, whether students who make unauthorized copies should be subject to university disciplinary procedures, and whether most people make unauthorized copies.

When those who own computers and those who do not own computers were examined, significant differences were found on several questions (see Table 5). These included whether the respondent has made unauthorized copies, whether the respondent will make unauthorized copies, whether the respondent will

probably give away unauthorized copies, whether the respondent will probably accept unauthorized copies, and whether the respondent will probably make unauthorized copies.

When those who have made unauthorized copies and those who have not made unauthorized copies were examined (see Table 6), significant differences were found on questions concerning whether the respondent will make unauthorized copies, whether it is all right to make unauthorized copies, whether most people make unauthorized copies, whether the respondent will give away unauthorized copies, and whether the respondent will accept unauthorized copies.

Discussion

The purpose of this study was to determine whether the university students sampled have made or will make unauthorized copies of computer software. This study has shown that unauthorized copying of computer software is occurring for this sample of students. Due to the limitation that random sampling was not used, the results can be inferred only to the group sampled. It is intended that this study be used as a preliminary study, and that further studies will be conducted to determine if unauthorized copying is occurring at other universities and colleges. Unauthorized copying or "software piracy" is seen as a problem by many researchers (Davis, 1985; Kinzer, Sherwood, & Bransford, 1986; Turner, 1987) and further research is warranted to determine if it should be viewed as an issue of concern for universities and colleges.

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TABLE 1

Selected Responses To Demographic Data
(Frequencies and Percentages)

Demographic Data

Age

	18-24	25 & Over	Missing Values
Responses	374	15	3
Percentages	96.1	3.9	

Sex

	Male	Female	Missing Values
Responses	201	186	5
Percentages	51.9	48.1	

Class Standing

	Freshman	Sophomore	Junior	Senior	Graduate
Responses	126	109	93	60	3
Percentages	32.2	27.9	23.8	15.3	0.8

(1 Missing Value)

Major (If decided): Identified 49 separate majors with 20.4% of the respondents undecided (no response). The five highest frequencies were:

	Marketing	Finance	Accounting	Business Administration	Management
Responses	56	38	31	30	22
Percentages	14.3	9.7	7.9	7.7	5.6

Of the remaining 135 responses (34.4%), no single category exceeded 10 responses (2.6%). There were no missing values.

Employment Status

	Full time	Part time	None	Missing Values
Responses	13	190	186	3
Percentages	3.3	48.9	47.8	

Computer Use (Hours per Week)

	0-5 Hours	6-10 Hours	11-15 Hours	16+ Hours
Responses	344	27	10	11
Percentages	87.7	6.7	2.8	2.8

(No Missing Values)

TABLE 2

Selected Responses To Dichotomous Questions
(Frequencies and Percentages)

Do you own a computer?

	Yes	No	Missing Values
Responses	95	296	1
Percentages	24.3	75.7	

Do you use a computer in your employment or for schoolwork?

	Yes	No	Missing Values
Responses	235	154	3
Percentages	60.4	39.6	

I have made unauthorized copies of licensed software.

	Yes	No	Missing Values
Responses	71	318	3
Percentages	18.3	81.7	

I will make unauthorized copies of licensed software.

	Yes	No	Missing Values
Responses	110	274	8
Percentages	28.6	71.4	

Most software licensing agreements forbid any copying of software.

	Yes	No	Missing Values
Responses	324	58	10
Percentages	84.8	15.2	

Many software programs are copy-protected.

	Yes	No	Missing Values
Responses	328	58	6
Percentages	85.0	15.0	

It is unlawful to make unauthorized copies of licensed software.

	Yes	No	Missing Values
Responses	368	23	1
Percentages	94.1	5.9	

It is unlawful to have unauthorized copies of licensed software in your possession.

	Yes	No	Missing Values
Responses	333	52	7
Percentages	86.5	13.5	

There are software programs readily available which will make unauthorized copies of copy-protected software.

	Yes	No	Missing Values
Responses	267	103	22
Percentages	72.2	27.8	

TABLE 3

Selected Responses To Likert-type Questions
(Frequencies and Percentages)

1. I think it is all right to make unauthorized copies of licensed software.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	24	91	114	122	37
Percentages	6.2	23.5	29.4	31.4	9.5

(4 Missing Values)

2. I think it is worse to make unauthorized copies of copy-protected licensed software than non-copy-protected licensed software.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	26	178	102	62	18
Percentages	6.7	46.1	26.4	16.1	4.7

(6 Missing Values)

3. I think it is all right to accept unauthorized copies of licensed software if someone gives them to me.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	31	138	99	103	16
Percentages	8.0	35.7	25.6	26.6	4.1

(5 Missing Values)

4. I think it is all right to make unauthorized copies of someone else's licensed software as long as they do not know and are not responsible.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	16	58	81	185	45
Percentages	4.2	15.0	21.0	48.1	11.7

(7 Missing Values)

5. It think it is worse to make unauthorized copies of licensed software than it is to accept copies which are given to me.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	23	157	109	79	17
Percentages	6.0	40.8	28.3	20.5	4.4

(7 Missing Values)

6. Students who make unauthorized copies of the university's licensed software should be subject to disciplinary procedures by the university.

	Strongly Agree	Agree	Undecided	Disgree	Strongly Disagree
Responses	21	121	121	78	42
Percentages	5.5	31.6	31.5	20.4	11.0

(9 Missing Values)

TABLE 3 (Continued)

Selected Responses To Likert-type Questions
(Frequencies and Percentages)

7. When licensed software has been purchased by an individual, he or she should be allowed to make copies.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	75	173	79	55	3
Percentages	19.5	44.9	20.5	14.3	0.8

(7 Missing Values)

8. When licensed software has been purchased by an individual, he or she should be allowed to give away copies.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	36	100	102	133	14
Percentages	9.4	26.0	26.5	34.5	3.6

(7 Missing Values)

9. Most people make unauthorized copies of licensed software.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	49	156	141	35	3
Percentages	12.8	40.6	36.7	9.1	0.8

(8 Missing Values)

10. Most software manufacturers do not mind if unauthorized copies of their licensed software are used by students.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	4	26	98	172	85
Percentages	1.0	6.8	25.4	44.7	22.1

(7 Missing Values)

11. Most licensed software is too expensive for students to purchase.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	8	81	143	120	32
Percentages	21.1	37.2	31.3	8.3	2.1

(8 Missing Values)

12. Making unauthorized copies of licensed software is comparable to making Xerox copies of books.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	30	156	81	97	17
Percentages	7.9	40.9	21.2	25.5	4.5

(11 Missing Values)

TABLE 3 (Continued)

Selected Responses To Likert-type Questions
(Frequencies and Percentages)

13. In the future, I probably will give someone an unauthorized copy(ies) of licensed software.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	23	75	154	111	19
Percentages	6.0	19.6	40.3	29.1	5.0

(10 Missing Values)

14. In the future, I probably will accept an unauthorized copy(ies) of licensed software if it is offered to me.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	38	141	127	67	10
Percentages	9.9	36.8	33.2	17.5	2.6

(9 Missing Values)

15. In the future, I probably will make an unauthorized copy(ies) of licensed software.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	27	91	136	111	17
Percentages	7.1	23.8	35.6	29.0	4.5

(10 Missing Values)

16. Software which allows unauthorized copies of licensed software to be made should not be available.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	34	100	145	95	7
Percentages	8.9	26.3	38.1	24.9	1.8

(11 Missing Values)

17. I think making unauthorized copies of licensed software is a crime.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	10	91	164	89	28
Percentages	2.6	23.8	43.0	23.3	7.3

(10 Missing Values)

18. If it is against the law to make unauthorized copies of licensed software, the law is not enforced.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	43	180	133	22	1
Percentages	11.3	47.5	35.1	5.8	0.3

(13 Missing Values)

TABLE 3 (Continued)

Selected Responses To Likert-type Questions
(Frequencies and Percentages)

19. If licensed software was loaned by the university library, generally students would not make unauthorized copies.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	21	102	116	116	26
Percentages	5.5	26.8	30.4	30.5	6.8

(11 Missing Values)

20. I think making unauthorized copies of licensed software is the same as stealing.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Responses	13	100	136	101	33
Percentages	3.4	26.1	35.5	26.4	8.6

(9 Missing Values)

TABLE 4

Chi-Square Test of Independence

GROUPS: THOSE WHO WILL MAKE UNAUTHORIZED COPIES
THOSE WHO WILL NOT MAKE UNAUTHORIZED COPIES

DO YOU OWN A COMPUTER?

	YES		NO	
GROUPS	FREQUENCY	%	FREQUENCY	%
WILL MAKE	55	50	56	50
WILL NOT MAKE	37	14	235	86

$x^2(1,N=383)=55.81$, $p < 0.000$

DO YOU USE A COMPUTER IN YOUR EMPLOYMENT OR FOR SCHOOL?

	YES		NO	
GROUPS	FREQUENCY	%	FREQUENCY	%
WILL MAKE	85	77	25	23
WILL NOT MAKE	146	54	125	46

$x^2(1,N=381)=17.95$, $p < 0.000$

IT IS ALL RIGHT TO MAKE UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
WILL MAKE	18	16	40	36	25	23	23	21	4	4
WILL NOT MAKE	6	2	49	18	85	32	96	36	33	12

$x^2(1,N=379)=49.08$, $p < 0.000$

TABLE 4 (Continued)

Chi-Square Test of Independence

STUDENTS WHO MAKE UNAUTHORIZED COPIES SHOULD BE SUBJECT TO UNIVERSITY DISCIPLINARY PROCEDURES

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
WILL MAKE	3	3	24	22	30	27	28	25	25	23
WILL NOT MAKE	17	6	94	36	88	33	50	19	16	6

$x^2(1,N=375)=28.88$, $p < 0.000$

MOST PEOPLE MAKE UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
WILL MAKE	32	29	47	43	23	21	8	7	0	0
WILL NOT MAKE	16	6	103	39	116	44	27	10	3	1

$x^2(1,N=375)=45.48$, $p < 0.000$

MOST SOFTWARE IS TOO EXPENSIVE FOR STUDENTS TO BUY

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
WILL MAKE	49	45	36	33	14	13	7	6	3	3
WILL NOT MAKE	31	12	102	38	105	39	23	9	5	2

$x^2(1,N=375)=58.82$, $p < 0.000$

WILL PROBABLY GIVE SOMEONE AN UNAUTHORIZED COPIES

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
WILL MAKE	20	18	47	43	26	24	15	14	1	1
WILL NOT MAKE	3	1	26	10	122	46	96	36	17	7

$x^2(1,N=373)=108.54$, $p < 0.000$

TABLE 4 (Continued)

Chi-Square Test of Independence

WILL PROBABLY ACCEPT UNAUTHORIZED COPIES

GROUPS	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
WILL MAKE	29	27	58	53	17	15	4	4	1	1
WILL NOT MAKE	9	3	77	29	107	41	63	24	9 .	3

$x^2(1,N=374)=86.93$, $p < 0.000$

TABLE 5

Chi-Square Test of Independence

GROUPS: THOSE WHO OWN COMPUTERS
THOSE WHO DO NOT OWN COMPUTERS

HAVE MADE UNAUTHORIZED COPIES OF SOFTWARE

	YES		NO	
GROUPS	FREQUENCY	%	FREQUENCY	%
DO OWN	47	50	47	50
DO NOT OWN	24	8	270	92

$x^2(1,N=388)=83.39$, $p < 0.000$

WILL MAKE UNAUTHORIZED COPIES OF SOFTWARE

	YES		NO	
GROUPS	FREQUENCY	%	FREQUENCY	%
DO OWN	55	60	37	40
DO NOT OWN	56	19	235	81

$x^2(1,N=383)=55.81$, $p < 0.000$

WILL PROBABLY GIVE AWAY UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
DO OWN	15	16	31	33	26	27	20	21	3	3
DO NOT OWN	8	3	43	15	128	45	91	32	15	5

$x^2(1,N=380)=40.07$, $p < 0.000$

TABLE 5 (Continued)

Chi-Square Test of Independence

WILL PROBABLY ACCEPT UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
DO OWN	21	22	40	42	19	20	13	14	2	2
DO NOT OWN	17	6	100	35	107	37	54	19	8	3

$x^2(1,N=381)=27.43$, $p < 0.000$

WILL PROBABLY MAKE UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
DO OWN	15	16	38	40	24	25	15	16	3	3
DO NOT OWN	12	4	52	18	112	39	95	33	14	5

$x^2(1,N=380)=39.67$, $p < 0.000$

TABLE 6

Chi-Square Test of Independence

GROUPS: THOSE WHO HAVE MADE UNAUTHORIZED COPIES
THOSE WHO HAVE NOT MADE UNAUTHORIZED COPIES

WILL MAKE UNAUTHORIZED COPIES OF SOFTWARE

	YES		NO	
GROUPS	FREQUENCY	%	FREQUENCY	%
HAVE MADE	64	91	6	9
HAVE NOT MADE	45	14	266	86

$x^2(1,N=381)=165.70$, $p < 0.000$

ALL RIGHT TO MAKE UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
HAVE MADE	12	17	29	41	13	18	14	20	3	4
HAVE NOT MADE	12	4	61	19	101	32	105	34	34	11

$x^2(1,N=384)=37.09$, $p < 0.000$

MOST PEOPLE MAKE UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
HAVE MADE	22	31	33	47	13	18	3	4	0	0
HAVE NOT MADE	27	9	122	40	125	40	32	10	3	1

$x^2(1,N=380)=33.70$, $p < 0.000$

TABLE 6 (Continued)

Chi-Square Test of Independence

WILL GIVE SOMEONE UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
HAVE MADE	16	23	33	47	12	17	9	13	0	0
HAVE NOT MADE	7	2	40	13	142	46	101	33	18	6

$x^2(1,N=378)=97.80$, $p < 0.000$

WILL ACCEPT UNAUTHORIZED COPIES OF SOFTWARE

	STRONGLY AGREE		AGREE		UNDECIDED		DISAGREE		STRONGLY DISAGREE	
GROUPS	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%	FREQUENCY	%
HAVE MADE	22	32	37	53	7	10	3	4	1	1
HAVE NOT MADE	16	5	102	33	118	38	64	21	9	3

$x^2(1,N=379)=68.29$, $p < 0.000$